1.1 Introduction

"The Nation that neglects creative thought today will assuredly have its nose ground into its dust of tomorrow".

- Fred Hoyle

Man has tremendous potentialities as well as great energies to realise them. His extraordinary thinking capacity, his wonderful imagination powers, his considerable control over his senses and emotions, his marvellous intelligence and astonishing discriminative powers, his sense of judgement, his penetrating reasoning and his unparallel power of plunging into his innerself are some of the special gifts given to him by nature. Man is remarkable because of his fantastic creative powers.

The human mind is creative and in its finer states of development and intuition creates new things, thinks up ideas that never existed before. The mental universe in man constantly interacts with the physical.

1.2 Interpretation of creativity

What exactly is the meaning of creativity? According to Websterians, creativity is derived from the word 'Creare' which means to create. To create is to bring into existence something new or novel as the result of thought and imagination. Rhodes (1961) has defined
creativity as a "noun naming phenomena in which a person communicates a new concept (which is a product)". The terms "process" and "press" are also implicit in the definition as this mental ability (process) cannot operate in vacuum (without press) 1.

The word 'creative' concerns with the invention of something, the production of something new, rather than the accumulation of skills or the exercise of book-learned knowledge. Creativity concerns with what people add to the store of knowledge which was on hand before they came upon the scene. Rediscoveries to children - constitutes genuine creative acts 2.

Some of the authors have defined creativity as follows:

Newell, A. et.al. 3 says that "Creative activity appears simply to be a special class of problem solving activity, characterised by novelty, unconventionality, persistence and difficulty in problem formulation".

1. Lalitha, M.S. "Self-concept and Creativity of over normal and under achievers among Grade X Students of Baroda City" - M.Ed., Dissertation, Baroda University, 1974.


Torrance defines creative thinking "as the process of sensing gaps or disturbing, missing elements, forming ideas or hypotheses concerning them, testing those hypotheses and communicating the results, possibly modifying and retesting the hypotheses".

Pier says "creativity is the capacity of the individual to avoid the usual routine of conventional ways of thinking and of doing things to produce a quality of ideas which are original, novel and uncommon".

Passi defines creativity as "a multi-dimensional (verbal and non-verbal) attribute differentially distributed among people and includes chiefly factors of seeing problems, fluency, flexibility, originality, inquisitiveness and persistency." Creative thinking is marked by action of mind purposefully directed to manipulate with the environment with a view to create new ideas and establish novel patterns and relationship.

Definitions of creativity are many ranging from those characterizing it as simple problem-solving to those that emphasise the full realization and expression of one's unique potentialities.

1.3 Need for creativity

A developing nation such as ours needs men of creativity who can think up solutions to the varied problems baffling the country. But the kind of education that we have been providing does not result in this, and hence calls for a thorough change. Education in our society

5. Pier in Torrance, Paul, E., Ibid.
is almost systematized and routinised at all levels from primary to the University. It has encouraged and has been encouraging listless passivity and rote memory. Why not we build up a tradition, a new tradition in teaching for pupil creativity at all levels of Indian Education and initiate the age of creative education?.

There is an accumulated evidence to show that learning by creativity is superior to learning by authority. Learning by creativity implies that pupils saturate themselves with knowledge, question, enquire, explore, experiment, manipulate or toy with ideas, concept, symbols, tools and materials. To learn creativity is to call into play the abilities such as "fluency" - the ability to think up number of solutions, "flexibility" - the ability to think different approaches or strategies; "Originality" - the ability to think up unusual solutions and "elaboration" - the ability to think up complete details of an idea.

We cannot afford to waste the talents of our youth. "The brains of its citizens constitute a nation's greatest asset. From the minds of men will come the future scientific discoveries, future works of art and literature, further advances in statesmanship, technology and social organisation; in short, all future progress. Since there can be no argument over this proposition, the practical problem becomes one of devising the best means of nurturing the talent which exists in the population 7." There is, therefore, a need to re-examine, remodel or drastically change, if necessary, our existing education.

1.4 Identification of creativity in classroom situations

Creative expression is found among all age groups and among children with varying degrees of intelligence. Every child has an "inborn creative spirit". Creativity is the product of many complex, divorce forces and conditions of the classroom atmosphere. Many classroom conditions foster creativity and many others inhibit it. Recognition and acknowledgement of creative potentialities is one of the most important teacher skills needed to nurture creative talent.

1.5 Climate for creativity

Creativity can be developed in the classroom only in an atmosphere of psychological safety. The children should have the freedom to express whatever ideas that crop up in their minds without any fear or pressure from any quarter. They should feel at ease and should not have the fear of being laughed at. They should have a permissive atmosphere to express their thoughts and ideas and sudden flashes of insight. There should not be any emphasis on uniformity. The stress of the teacher should be on self-initiated, independent, constructive responses. All sorts of free-wheeling must be welcome. The classroom sessions should never be a time of 'cold war' or 'wet blanket'. The use of all "killer phrases" should be avoided. For the human minds to blossom with beautiful roses of creative ideas, the soil of democratic organisation and administration is essential.

1.6 Role of Teachers in promoting creativity of pupils

There is enough evidence for a definite increase in creative thinking and creative activity among the young when constraints of the
classroom are relaxed and creativity is encouraged. Unfortunately, most schools in our country are traditional and teaching to a large extent is curriculum bound. Learning by enquiry is encouraged only in very few schools. Every teacher should be able to kindle the spark of creativity in every child which would make the task of learning more exciting and more meaningful.

Societies cannot be easily and radically changed by the human will according to plans. Rather, it is creativity with which the members of the society are endowed that accounts for eternal dynamism of the society. Although development of creativity depends on many factors in the educational environment, the role played by the teacher cannot be underestimated, for the destiny of the nation is shaped in her classrooms.

1.7 Research in Teaching

Research in Teaching is yet a young science. A sprinkling of interest on the topic of systematic observation had been followed during the fifties and sixties.

Research in Teaching and Teacher Behaviour in India has for a long been conducted by standing outside the classroom and therefore, study of actual classroom behaviour of Teachers has been neglected. Buch (1970) suggested that serious attempts would have to be made in research on teaching in general and teacher behaviour in particular, if the desired objectives of teaching are to be realised. He has further emphasized the need to conduct studies in modification of classroom behaviour of teachers. Thus, experimental studies are to be carried out.
in order to examine the hypotheses generated in different techniques' like Simulated Teaching, Micro-Teaching and Interaction Analysis on various characteristics and classroom behaviour of teachers.

1.8 Interaction Analysis

"Interaction Analysis is a word that refers to any technique for studying the chain of the classroom events in such a fashion that each event is taken into consideration. Classroom Interaction Analysis is particularly concerned with the influence patterns of the teacher". This might be considered as a bias; but it is a bias of purpose and interest. The purpose is to record a series of acts in terms of predetermined concepts. The concepts in this case refer to the teachers' control of the students' freedom of action. Our interest is to distinguish those acts of the teacher that decrease students' freedom of action and to keep record of both. The system of categories is used by the observer to separate those acts which results in compliance from those acts which invite more creative and voluntary participation; at the same time, it prevents him from being diverted by the subject matter which is irrelevant to the study.

At present in the pedagogical world many a technique has been evolved to find out the classroom interaction. When we analyse the classroom interaction, we study the teacher-pupil relationship and the effectiveness of the teaching-learning process. Interaction Analysis is an observational procedure designed to record the spontaneous acts of the verbal behaviour of teacher and scrutinise the process of instruction by taking into account each small bit of interaction.
1.9 Teacher Behaviour - Concept - Taxonomy and Variables

Teaching is a dynamic interplay between the teacher and the nature of the pupils. During the teaching process the teacher establishes a rapport and a sound working relationship with the pupils and many kinds of clearing can be effected under his guidance. Ryan defines Teacher Behaviour as the behaviour or activities of persons as they go about doing whatever is required of teachers, particularly those activities which are concerned with the guidance or direction of the learning of others.

The current approach is towards developing a taxonomy of teacher behaviour. The pioneer effort of Ohio - University Research Foundation, Columbus, U.S.A., in this direction may be duly recognised. Karl Open Shaw and others have tried to develop a taxonomy of Teacher Behaviour which includes four major dimensions:

a. A source Dimension,
b. A Direct Dimension,
c. A Function Dimension,
d. A Sign Dimension.

Each of these dimensions of teaching is observable and quantifiable, the analysis of which provides empirical proof about what a teacher does and how he behaves while teaching. The ramifications of the Teacher Behaviour cannot be fully grasped without taking into consideration the total interaction of the situation which includes student Behaviour.
The Source Dimension of Teaching provides an interaction of the relationship of student and teacher at a basic level. Teaching is the interaction between a projector entity called Teacher and receptor entities within a classroom situation. The receptor entities include students as individuals in a small group and as a whole class as well as inanimate objects with which the teacher interacts. The identification and classification of the nature of receptor entities provide the Direct Dimension of teaching in the study done by Openshaw and others.

The teacher has to perform certain tasks. One task is related to subject matter or content which comprises factors, names and concepts in the fields of organised knowledge. But it might also deal with belief, attitudes, way of organising skills and process of instruction. A second major responsibility of teaching is that of establishing and maintaining interpersonal relations among persons within the classroom, so that the content task may be realised. The third task is the facilitation of the learning process. Behaviour engaged in by the teacher to accomplish these three tasks constitute the Function Dimension of teaching.

In order that a behaviour be observed, it must be communicated in some way. Communication takes several avenues and a given function may require more than one mode of expression fulfilling a given function. The mode of behaviour makes up the Sign Dimension of Teacher's classroom behaviour and may be illustrated as in Figure 1.
Ryan has developed two assumptions necessary for a theory of teacher behaviour. The first assumption treats the teacher behaviour as a function of situational factors and characteristics of individual teachers. The assumptions seems to generate the following sub-assumptions:

i) Teacher Behaviour is characterised by some degree of consistency.

ii) Teacher behaviour is characterised by a limited number of responses.

iii) Teacher behaviour is always probable rather than certain.

iv) Teacher behaviour is a function of personal characteristics of individual teachers.

v) Teacher behaviour is a function of general features of the situation in which it takes place.
vi) Teacher behaviour is a function of specific situation in which it takes place.

The second assumption takes the Teacher Behaviour to be observable and its sub-assumption may be the following:

i) Teacher behaviours are distinguishable.

ii) Teacher behaviour is measurable and classifiable both qualitatively, and quantitatively.

iii) Teacher behaviour gets revealed through overt behaviour and also in symptoms or correlates of behaviour.

That is, teacher behaviour may be observed by representative sampling of specific teacher acts or specific signs or indications of the behaviour under consideration.

According to Hyman, the actions which constitute teaching take place and are influenced by an environment which typically contains such social factors as more organisational structures and cultural resources as well as physical objects, persons, etc.

Tolman in 1952 developed a psychological paradigm illustrating the variables involved in and related to activities consisting teaching. The variables could be classified into three categories:

i) Independent variables,

ii) Dependent variables,

iii) Intervening variables.
The actions of the teacher belong to the first and the actions of the pupils belong to the second of the three categories. Learning as an achievement, is an intervening variable. The index of its presence is pupil behaviour which itself is a dependant variable.

1.10 Need for the study

One of the talents which should be emphasised in teachings is the creative talent, which enables us to meet the challenges of our time. What we have to do now is to so plan our teaching strategy that creative teaching and learning are emphasised in the classroom. Instead of making a child a good receiver of given knowledge, a good memoriser, a good convergent thinker ready to produce set answers to given problems, he should be expected to do some creative thinking to be able to ask some intelligent, thought-provoking questions, to come out with some novel ideas, to use his imagination to produce something exciting, which would take society a step forward. Viewed from the creativity point of view, what is going on in our present system of education is far from satisfactory. The whole environment in the classroom is insulated in such a way that creativity is completely inhibited.

The teacher is said to be a torchbearer; a keyman upon whom depends the future of the child, the school, the community, the nation and ultimately mankind. He should train every child to use his mind creatively. What he has to do is first to learn to respond to the creative needs of the learner and then be ready to go beyond textbooks, classroom and the prescribed syllabus. Therefore, it was felt by the researcher that classroom behaviour of teachers might influence the creativity of pupils and the researcher decided to take up the problem of studying
the creativity of pupils in relation to teacher behaviour in the classroom. The researcher also felt that there was a need for a deeper study of the concept of creativity, relating it with a few other variables, such as intelligence, personality and academic achievement of students, in order to enable teachers to be on the alert to spot such creative individuals who are promising nation-builders of the future. In the present day educational system, there is very little classroom environment for creativity. Therefore, the researcher felt that a study into the same would be worthwhile.

1.11 Relevance of the study

Knowing the importance of creativity, many research workers have tried to identify some of the influencing factors and they have associated age, sex, birth order, socio-economic status, culture, intelligence, academic achievement, etc., with creativity. Teacher Behaviour is one of the major factors contributing to the creativity of individuals. Somehow, this has been missed by the researchers. The present study aims to measure the influence of Teacher Behaviour on Pupil creativity. It is important to note that, to develop creativity in children it becomes sufficient to change the behaviour of a few teachers.

1.12 Statement of the problem

The future of India as a nation, is unquestionably bound by the availability of trained intellect in an increasingly large number and the school is the only place where perhaps an organised effort can be made to ensure a continuous flow of such trained intellect. The teacher must organise his teaching in such a way that children are afforded
opportunities to exercise their talents. The classroom atmosphere must be such as to encourage students to express their ideas without fear of ridicule or punishment. The teacher must respect the unusual responses and ideas of students and allow them a permissive atmosphere and freedom to learn and ask questions. Teacher Behaviour is an important factor which may either encourage or inhibit creativity in the classroom. Hence it is essential to probe into the creative ability of pupils in relation to teacher behaviour in the classroom.

In order to identify the variables related to teacher behaviour and their impact on pupil creativity, the investigator has taken up the problem, "A study of the Relationship of Teacher Behaviour with creativity of Higher Secondary pupils".

1.13 Definition of Terms

To enable a clear understanding of the problem, the meaning of the terms used have been explained forthwith.

1.13.1 Teacher Behaviour

It means teacher's influence patterns exerted in the classroom while teaching. The basic premise of Interaction Analysis is the belief, that Teachers' classroom verbal behaviour creates a particular type of social, emotional climate in the classroom which has a direct effect in the attitude and behaviour of pupils. (Flanders, 1970).

The conditions prevailing or developing in the classroom as a result of Teacher - Pupil interaction during teaching - learning situation can be measured in the classroom Interaction Analysis.
1.13.2 Creativity

In the verbal and non-verbal tests of creativity, tasks pertaining to four traits viz., fluency, flexibility, originality and elaboration - have been covered. These four traits used in the test are considered to be the most important ones; and, if taken together, they would give a fairly valid information about the creative potential of the individual.

1.13.2.1 Verbal creativity

The verbal test is part of the total battery which consists of both verbal and non-verbal tests. The verbal test of creativity includes four sub-tests, viz., Consequences Test, Unusual Uses Test, Similarity Test and Product Improvement Test. The total time required for administering the Test is 48 minutes.

1.13.2.2 Non-verbal creativity

The non-verbal Test is also part of the total battery which consists of both verbal and non-verbal tests. The non-verbal test of creative thinking is intended to measure the individual's ability to deal with figural content in a creative manner. Three types of activity are used for this purpose, viz., Picture construction, Picture completion and Triangles and Ellipses. The total time required for administering the Test is 35 minutes.

1.13.3 Higher Secondary

The term 'Higher Secondary' refers to the classes of standard XI & XII in which pupils of age groups (16-17) study. These
are the terminal classes of the Higher Secondary School Course and at
the end of the course, the pupils have to take a common examination
conducted by the State Board of Higher Secondary Education. This is
a qualifying examination for entering into the Arts and Professional
Colleges or for job entrance.

1.14 Assumptions underlying the Investigation

Any investigation has ultimately to be based on certain
assumptions which provide the working base for the study. The present
investigation is based on the following assumptions :-

1. Teacher behaviour and the interaction between the teacher
   and the taught, play a vital role in creating a climate
   for creativity for pupils in the classroom.

2. Classroom behaviour of teachers influences pupil creativity
   either positively or negatively.

3. The observed teacher behaviour, pupil behaviour and their
   interactions are representative of the respective total
   behaviours.

4. Creative teachers inspiringly lead their pupils and create
   an endless quest for challenges and opportunities in them.

5. Encouraging teachers make the classroom life of pupils
   successful.

1.15 Objectives of the study

The study has been designed with the following objectives
in view.
1.15.1 Major objectives of the study

i) To find out the relationship between the classroom behaviour of teachers and creativity of pupils.

ii) To study the various factors that go to build up the classroom behaviour of teachers.

iii) To bring out a better understanding of the concept of creativity.

1.15.2 Secondary objectives

i) To find out the effects of Teachers' Classroom interaction Patterns upon pupils' creativity.

ii) To find out the relationship between different patterns of Teacher Behaviour and Academic Achievement of pupils.

iii) To study the communication patterns of Teachers, teaching English at standard XI.

iv) To study the effect of I.Q., on creativity and academic achievement of pupils.

v) To find out the impact of personality factors on pupils' creativity and Academic Achievement.

vi) To assess the relationship between I.Q., and personality factors of pupils.

vii) To study whether the communication patterns of these teachers differ according to the sex of teachers and locality and type of management of schools, etc.
viii) To enable teachers and educators to identify creative children in their classroom by measuring the factors like intelligence, personality and Academic Achievement of pupils, which might influence creativity.

ix) To suggest remedial measures for enabling better classroom behaviour of Teachers and consequently bringing out better pupil creativity.

1.16 Hypotheses of the study

The hypotheses of the present study are enlisted below:

i) Teachers' "Indirect Influence Patterns" of classroom behaviour are not positively correlated to pupils' creativity.

ii) Teachers' "Direct Influence Patterns" of classroom behaviour encourage pupils' creativity.

iii) Classroom behaviour of teachers and their pupils' academic achievement are independent.

iv) Intelligence and creativity of pupils are negatively correlated.

v) Intelligence of pupils does not enhance their academic achievement.

vi) Pupils' academic achievement and creativity have no mutual influence.

vii) Personality factors of pupils have no impact on their creativity and academic achievement.
viii) There does not exist any relationship between pupils' I.Q., and Personality Factors.

ix) The scores of creativity, I.Q., Personality Factors and Academic Achievement, do not differ according to the sex of pupils and locality and type of management of schools.

x) Teachers of different categories are alike in their communication patterns.

1.17 Scope of the study

Creativity eventhough much spoken of is neglected in identification as an act in the Classroom. Social interaction has been considered as an important condition for the development of creativity. Individuals affect and are affected by the environment in which they live. The conditions found in the social environment which are related to creativity, are those which encourage and facilitate openness in thought and action and provide scope for discovery of new ideas. Hence, it is essential to find out how creativity is fostered in the classroom. This study would also help the teachers to observe teachers' behaviour in the classroom and identify effective patterns of teaching behaviour related to pupils' creativity. It would also help the teachers to modify their teaching behaviour.

1.18 Limitations of the study

The present investigation has been made with particular reference to Higher Secondary Schools in the district of Coimbatore. This geographical limitation was necessary because of two reasons, the
first being the vastness of the geographical area of the State of Tamil Nadu and the second being the time factor. However, the sample has been carefully chosen so as to include different types of schools managed by the Government, Municipal Corporation and private bodies.

The investigator, being an English teacher, desires to limit the selection of sample for the present study to the Teachers of English handling Standard XI only, for measuring classroom Behaviour of teachers.

1.19 A Brief Resume of the Succeeding Chapters

The study is reported in five chapters. In the first chapter, the problem has been introduced and the need for the study has been established.

In the Second Chapter, the investigator gives an account of some of the previous studies which are related to the present study. These studies have been abstracted.

The Third Chapter deals with the methodological procedures used in the study. It would include discussion of variables, sample, collection of data and tools used in the study.

Chapter Four presents detailed discussions on the analysis of data, the results and their interpretations.

The Fifth Chapter summarises the findings of the study and the recommendations are mentioned at the end of the chapter.